Complete Summary

GUIDELINE TITLE

Primary open-angle glaucoma suspect.

BIBLIOGRAPHIC SOURCE(S)

American Academy of Ophthalmology Glaucoma Panel. Primary open-angle glaucoma suspect. San Francisco (CA): American Academy of Ophthalmology; 2002 Oct. 26 p. [80 references]

COMPLETE SUMMARY CONTENT

SCOPE

DISEASE/CONDITION(S)

Primary open-angle suspect, or borderline glaucoma, including preglaucoma, open-angle glaucoma with borderline findings (e.g., borderline intraocular pressure or optic disc appearance suspicious of glaucoma), steroid responders, and ocular hypertension

GUIDELINE CATEGORY

Counseling
Diagnosis
Evaluation
Management
Risk Assessment
Screening

CLINICAL SPECIALTY

Ophthalmology

INTENDED USERS

Allied Health Personnel
Health Plans
Physicians

GUIDELINE OBJECTIVE(S)

The purpose of treatment is to preserve visual function by early detection of glaucomatous optic nerve damage and by lowering intraocular pressure (IOP) in individuals at high risk for developing such damage with the following goals:

- To identify patients at risk for developing glaucomatous optic nerve damage.
- To document the appearance of the optic nerve or nerve fiber layer, obtain one or more baseline visual fields in patients at risk, and determine the status of IOP and central corneal thickness.
- To identify, at an early stage, patients who develop glaucomatous optic nerve damage (as manifested by typical or progressive optic nerve or nerve fiber layer abnormalities, or by glaucomatous visual field loss), and treat them according to the guidelines of the Primary Open-Angle Glaucoma, Preferred Practice Pattern.
- To identify a subset of glaucoma suspects who are at particularly high risk for progressive glaucomatous optic nerve damage. This includes two groups of individuals:
    - Those without glaucomatous optic nerve damage, who can reasonably be expected to develop damage because of the presence of one or more risk factors.
    - Those who actually may have early glaucomatous optic nerve damage but cannot be reliably diagnosed with currently available examination techniques because the findings are not conclusive.
- To treat high-risk individuals to prevent or retard development of glaucomatous optic nerve damage by the following means.
    - Estimate a target IOP below which optic nerve damage is unlikely to occur.
    - Attempt to maintain IOP at or below this target level with appropriate therapeutic interventions.
    - Monitor the visual fields and appearance of the optic nerve or retinal nerve fiber layer to assess the adequacy of the target IOP. The diagnosis of primary open-angle glaucoma (POAG) is established when deterioration consistent with glaucomatous damage of the optic nerve or visual field has been documented.
    - Follow the recommendations of the Primary Open-Angle Glaucoma, Preferred Practice Pattern for those patients who show deterioration of the optic nerve or visual field.
- To optimally balance the benefits of therapy with the side effects and costs of management.
- To educate and engage patients in the management of the disease.

TARGET POPULATION

Adults with normal-appearing, open anterior-chamber angles by gonioscopy with one or more risk factors for developing glaucomatous optic nerve damage.

INTERVENTIONS AND PRACTICES CONSIDERED

Screening and Diagnosis

1. Screening to identify patients at risk
2. Comprehensive initial/baseline evaluation with the addition of, or special attention to, those factors that particularly bear upon the diagnosis, course, and treatment of glaucoma suspect.
3. Review of family, ocular, and systemic history
4. Physical examination including measurement of intraocular pressure with a Goldmann-type applanation tonometer, an assessment of pupillary function, slit-lamp biomicroscopic examination of the anterior segment, central corneal thickness measurement, gonioscopy, evaluation of the optic nerve head and retinal nerve fiber layer, documentation of optic nerve head appearance, evaluation of the fundus, and evaluation of the visual field

Management/Treatment

1. Periodic follow-up of glaucoma suspects with evaluation of intraocular pressure, visual fields, appearance of optic nerves, and presence of additional risk factors
2. Treatment of high-risk glaucoma suspects with medical treatment (e.g., miotics, topical adrenergic derivatives, prostaglandin analogs, beta-adrenergic antagonists, alpha$_2$-adrenergic agonists, and carbonic anhydrase inhibitors), laser surgery, and incisional surgery (alone or in combination)
3. Patient education, counseling, and referral

MAJOR OUTCOMES CONSIDERED

- Risk for development of glaucomatous optic nerve damage
- Accuracy of diagnostic assessments for primary open-angle glaucoma suspect
- Optic nerve/retinal nerve fiber layer status
- Intraocular pressure
- Visual fields
- Side effects and complications of treatment

METHODOLOGY

METHODS USED TO COLLECT/SELECT EVIDENCE

Searches of Electronic Databases

DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

A literature search of MEDLINE was conducted on the subject of primary open-angle glaucoma suspect for the years 1995-1999. The latest limited revision of the guidelines has been prompted by the report of the Ocular Hypertension Treatment Study (OHTS), which led to modified recommendations for care.

NUMBER OF SOURCE DOCUMENTS

Not stated

METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Weighting According to a Rating Scheme (Scheme Given)

RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

Ratings of Strength of Evidence

Level I: Provides strong evidence in support of the statement. The design of the study allowed the issue to be addressed, and the study was performed in the population of interest, executed in such a manner as to produce accurate and reliable data, and analyzed using appropriate statistical methods. The study produced either statistically significant results or showed no difference in results despite a design specified to have high statistical power and/or narrow confidence limits on the parameters of interest.

Level II: Provides substantial evidence in support of the statement. Although the study has many of the attributes of one that provides Level I support, it lacks one or more of the components of Level I.

Level III: Provides a consensus of expert opinion in the absence of evidence that meets Levels I and II.

METHODS USED TO ANALYZE THE EVIDENCE

Systematic Review

DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

Not stated

METHODS USED TO FORMULATE THE RECOMMENDATIONS

Expert Consensus

DESCRIPTION OF METHODS USED TO FORMULATE THE RECOMMENDATIONS

The results of a literature search on the subject of primary open-angle glaucoma suspect were reviewed by the Glaucoma Panel and used to prepare the recommendations, which they rated in two ways. The panel first rated each recommendation according to its importance to the care process. This "importance to the care process" rating represents care that the panel thought would improve the quality of the patient´s care in a meaningful way. The panel also rated each recommendation on the strength of the evidence in the available literature to support the recommendation made.

RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Ratings of importance to care process

Level A, most important
Level B, moderately important
Level C, relevant, but not critical

COST ANALYSIS

A formal cost analysis was not performed and published cost analyses were not reviewed.

METHOD OF GUIDELINE VALIDATION

External Peer Review
Internal Peer Review

DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

These guidelines were approved by the Board of Trustees of the American Academy of Ophthalmology (September 2002).

RECOMMENDATIONS

MAJOR RECOMMENDATIONS

Ratings of importance (A-C), ratings of strength of evidence (I-III) and ratings of feasibility (a-c), are defined at the end of the Major Recommendations field.

Diagnosis

Comprehensive Initial Glaucoma Suspect Evaluation

The comprehensive initial glaucoma suspect evaluation (history and physical examination) includes all components of the comprehensive adult eye evaluation with the addition of, and special attention to, those factors that specifically bear upon the diagnosis, course, and treatment of glaucoma suspects.

History

- Family (A:II)(a), ocular, and systemic history (A:III)(a)
- Pertinent records (A:III)(b)
- Ocular and systemic medications (A:III)(b)
- Ocular surgery (A:III)(a)
- Known local or systemic intolerance to the use of glaucoma medications (A:III)(b)
- Time of last use of glaucoma medications, if the patient is being treated (B:III)(b)

- Severity and outcome of glaucoma in family members, including history of visual loss from glaucoma (B:I)(b)
- Assessment of impact of visual function on daily living and activities (A:III)(b)

Physical Examination

- Assessment of pupillary function (B:II)(a)
- Slit-lamp biomicroscopy of the anterior segment (A:III)(a)
- Measurement of intraocular pressure (A:III)(a)
- Determination of central corneal thickness, (A:I)(a) preferably with an electronic pachymeter
- Gonioscopy (A:III)(a)
- Evaluation of the optic nerve head and retinal nerve fiber layer (dilation of pupil preferable) (A:III)(a)
- Documentation of optic nerve head appearance (A:II)(a)
- Evaluation of the fundus (A:III)(a)
- Evaluation of the visual field (A:III)(a)

Management

Management recommendations are described in the main body of the original guideline document.

Follow-up Evaluation

Patients with glaucoma suspect should receive follow-up evaluations and care to monitor and treat their disease according to the guidelines for follow-up summarized in Tables 2 and 3 of the original guideline document.

History

- Ocular history (A:III)(a)
- Systemic medical history (B:III)(a)
- Local or systemic problems with medication (A:III)(a)
- General assessment of the impact of visual function on daily living (B:III)(b)
- Frequency and time of last intraocular pressure (IOP)-lowering medications, and verification of appropriate use of medications, if the patient is being treated (B:III)(a)

Physical Examination

- Visual acuity in each eye (A:III)(a)
- Slit-lamp biomicroscopy (A:III)(a)
- Measurement of intraocular pressure (IOP) in each eye (A:III)(a)

Counseling/Referral

- Patients should be educated about the disease process, the rationale and goals of intervention, the status of their condition, and the relative benefits and risks of alternative interventions so that they can participate meaningfully in developing an appropriate plan of action. (A:III)(b)

- Patients should be instructed in the proper techniques for taking and using medication to minimize side effects and complications. (B:II)(c)
- Patients should be encouraged to alert their ophthalmologists to physical or emotional changes that occur when taking glaucoma medications. (A:III)(c)

Definitions:

Importance to the care process:

Level A: defined as most important

Level B: defined as moderately important

Level C: defined as relevant but not critical

Strength of evidence:

Level I: Provides strong evidence in support of the statement. The design of the study allowed the issue to be addressed, and the study was performed in the population of interest, executed in such a manner as to produce accurate and reliable data, and analyzed using appropriate statistical methods. The study produced either statistically significant results or showed no difference in results despite a design specified to have high statistical power and/or narrow confidence limits on the parameters of interest.

Level II: Provides substantial evidence in support of the statement. Although the study has many of the attributes of one that provides Level I support, it lacks one or more of the components of Level I.

Level III: Provides a consensus of expert opinion in the absence of evidence that meets Level I and II.

The ratings of feasibility indicate the likelihood that the indicator in question can be abstracted from a review of the patient's medical record or the administrative (billing and enrollment) data. A rating of (a) is defined as high feasibility, (b) defined as moderate feasibility, and (c) defined as low feasibility.

CLINICAL ALGORITHM(S)

A clinical algorithm for the management of patients with primary open-angle glaucoma suspect is provided in the original guideline document.

EVIDENCE SUPPORTING THE RECOMMENDATIONS

TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

The type of supporting evidence is identified and graded for each recommendation (see "Major Recommendations").

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

POTENTIAL BENEFITS

Loss of vision from glaucoma may be retarded or prevented through early diagnosis and therapy.

Subgroups Most Likely to Benefit:

- Elderly individuals: The risk of glaucomatous optic nerve damage increases substantially with age and with the level of intraocular pressure.
- African Americans: African Americans are at greater risk than Caucasians; the onset of optic nerve damage comes at an earlier age, the damage is more severe at the time of detection, and most therapeutic interventions are less successful.
- Individuals with a family history of glaucoma

POTENTIAL HARMS

- Side effects of topical intraocular pressure-lowering medications may be severe, and occasionally even fatal in highly susceptible individuals. Patients should be educated about eyelid closure and nasolacrimal occlusion when instilling topical medications to reduce systemic absorption.
- Laser trabecular surgery and filtering surgery are associated with potential side effects and complications.

QUALIFYING STATEMENTS

QUALIFYING STATEMENTS

- Preferred Practice Patterns provide guidance for the pattern of practice, not for the care of a particular individual. While they should generally meet the needs of most patients, they cannot possibly best meet the needs of all patients. Depending on a host of medical and social variables, it is anticipated that it will be necessary to approach some patients' needs in different ways. The ultimate judgment regarding the propriety of the care of a particular patient must be made by the physician in light of all the circumstances presented by the patient. Adherence to these Preferred Practice Patterns will certainly not ensure a successful outcome in every situation. These guidelines should not be deemed inclusive of all proper methods of care or exclusive of other methods of care reasonable directed at obtaining the best results.
- Preferred Practice Patterns are not medical standards to be adhered to in all individual situations. The Academy specifically disclaims any and all liability for injury or other damages of any kind, from negligence or otherwise, for any and all claims that may arise out of the use of any recommendations or other information contained herein.

IMPLEMENTATION OF THE GUIDELINE

DESCRIPTION OF IMPLEMENTATION STRATEGY

An implementation strategy was not provided.

INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

IOM CARE NEED

Living with Illness

IOM DOMAIN

Effectiveness
Patient-centeredness
Safety

IDENTIFYING INFORMATION AND AVAILABILITY

BIBLIOGRAPHIC SOURCE(S)

American Academy of Ophthalmology Glaucoma Panel. Primary open-angle glaucoma suspect. San Francisco (CA): American Academy of Ophthalmology; 2002 Oct. 26 p. [80 references]

ADAPTATION

Not applicable: The guideline was not adapted from another source.

DATE RELEASED

1989 Sep (revised 2002 Oct)

GUIDELINE DEVELOPER(S)

American Academy of Ophthalmology - Medical Specialty Society

SOURCE(S) OF FUNDING

American Academy of Ophthalmology (AAO)

GUIDELINE COMMITTEE

Glaucoma Panel; Preferred Practice Patterns Committee

COMPOSITION OF GROUP THAT AUTHORED THE GUIDELINE

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FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

Not stated

GUIDELINE STATUS

Please note: This guideline has been updated. The National Guideline Clearinghouse is working to update this summary.

GUIDELINE AVAILABILITY

Electronic copies: Available from the American Academy of Ophthalmology (AAO) Web site.

Print copies: Available from American Academy of Ophthalmology, P.O. Box 7424, San Francisco, CA 94120-7424; telephone, (415) 561-8540.

AVAILABILITY OF COMPANION DOCUMENTS

None available

PATIENT RESOURCES

None available

NGC STATUS

This summary was completed by ECRI on November 20, 2000. The information was verified by the guideline developer on December 20, 2000. This summary was updated on March 12, 2003. The updated information was verified by the guideline developer on April 2, 2003.

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